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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------|
| 09/809,302 | 03/16/2001 | Masahito Obata | 204489US-2 | 5436 |
| 22850 | 7590 | 06/07/2005 | | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER LAMB, TWYLER MARIE | |
| | | | ART UNIT | PAPER NUMBER |

2622

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 09/809,302 | Applicant(s) OBATA, MASAHIITO | |
| | Examiner Twyler M. Lamb | Art Unit 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-2, 10-11 and 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Toyoda (US 6,381,376).
4. With regard to claims 1, 10 and 19, Toyoda discloses an image forming apparatus (Figure 1), comprising: a pattern detecting device (connection processing section 10) configured detect whether or not a pattern is constructed with a lengthwise

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line of a single dot width on a basis of a pattern of respective multi-value data of a target pixel and circumferential pixels adjacent thereto in a main scanning direction (col 4, lines 13-15; col 4, line 32 – col 7, line 33); a printing device (printer 101) configured to print size-reduced printing dots of said lengthwise line of the single dot width detected by said pattern detecting device (col 7, lines 36-45).

With regard to claims 2, 11 and 20, Toyoda also discloses wherein said pattern detecting device further detects whether or not the pattern is constructed with an edge of a lengthwise line of a plural dot width on a basis of the pattern of the respective multi-value data of the target pixel and the circumferential pixels adjacent thereto in the main scanning direction (col 4, lines 13-15; col 4, line 32 – col 7, line 33); and said printing device further prints size-reduced printing dots of said lengthwise line of the plural dot width detected by said pattern detecting device (col 7, lines 36-45).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-9, 12-18 and 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda (US 6,381,376) in view of RICOH (JP 2000-103117).

With regard to claims 3, 12 and 21, does not specifically teach wherein said pattern detecting device judges whether or not said constructed lengthwise line is of the

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single dot width or of a plural dot width, when pixels neighboring right and left of the target pixel are white or black and the target pixel is halftone or black.

The Ricoh reference discloses an image forming apparatus wherein said pattern detecting device judges whether or not said constructed lengthwise line is of the single dot width or of a plural dot width, when pixels neighboring right and left of the target pixel are white or black and the target pixel is halftone or black (reference section 0017

Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda to include said pattern detecting device judges whether or not said constructed lengthwise line is of the single dot width or of a plural dot width, when pixels neighboring right and left of the target pixel are white or black and the target pixel is halftone or black as taught by RICOH (JP 2000-103117). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda by the teaching of RICOH (JP 2000-103117) so that when the pixel to the left or right of the attention pixel of the image data outputted is either white or black or halftone or black, it is possible to detect that the image is in agreement with either of two or more specific patterns which the edge part of an image is a candidate for concentration amendment to aid in the prevention of an edge section in an image or one dot line from becoming too thick as taught by RICOH (JP 2000-103117) in reference section 0017 (Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

With regard to claims 4, 5, 13-14 and 22-23, Toyoda does not specifically teach wherein said printing device shortens a dot width so as to bring neighboring dots into

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contact with each other when printing is done with the size-reduced printing dot of the lengthwise line of the plural dot width.

The Ricoh reference discloses an image forming apparatus wherein said printing device shortens a dot width so as to bring neighboring dots into contact with each other when printing is done with the size-reduced printing dot of the lengthwise line of the plural dot width (reference sections 0047 and 0048 Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda to include said printing device shortens a dot width so as to bring neighboring dots into contact with each other when printing is done with the size-reduced printing dot of the lengthwise line of the plural dot width as taught by RICOH (JP 2000-103117). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda by the teaching of RICOH (JP 2000-103117) so that when the pixel to the left or right of the attention pixel of the image data outputted is either white or black or halftone or black, it is possible to bring the pixels near by the right and the left to aid in the prevention of an edge section in an image or one dot line from becoming too thick as taught by RICOH (JP 2000-103117) in reference sections 0047 and 0048 (Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

With regard to claims 6, 15 and 24, Toyoda does not specifically wherein said pattern detecting device further detects whether or not said lengthwise line is a white lengthwise line of a single dot width or less than the single dot width, on a basis of the

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patterns of the respective multi-value data of the target pixel and the circumferential pixels adjacent thereto in the main scanning direction; and said printing device performs the printing operation with further small printing dot of the white lengthwise line detected by said pattern detecting device.

The Ricoh reference discloses an image forming apparatus wherein said pattern detecting device further detects whether or not said lengthwise line is a white lengthwise line of a single dot width or less than the single dot width, on a basis of the patterns of the respective multi-value data of the target pixel and the circumferential pixels adjacent thereto in the main scanning direction (reference section 0017 Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl); and said printing device performs the printing operation with further small printing dot of the white lengthwise line detected by said pattern detecting device (reference sections 0047 and 0048 Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda to include said pattern detecting device further detects whether or not said lengthwise line is a white lengthwise line of a single dot width or less than the single dot width, on a basis of the patterns of the respective multi-value data of the target pixel and the circumferential pixels adjacent thereto in the main scanning direction; and said printing device performs the printing operation with further small printing dot of the white lengthwise line detected by said pattern detecting device as taught by RICOH (JP 2000-103117). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda by the teaching of

RICOH (JP 2000-103117) so that when the pixel to the left or right of the attention pixel of the image data outputted is either white or black or halftone or black, it is possible to bring the pixels near by the right and the left to aid in the prevention of an edge section in an image or one dot line from becoming too thick as taught by RICOH (JP 2000-103117) in reference sections 0017, 0047 and 0048 (Note: JP-2000-103117 as translated by http://www.ipdl.ipd.go.jp/homepg_e.ipdl).

With regard to claims 7, 16 and 25, Toyoda does not specifically teach wherein said pattern detecting device is provided with plural pattern detecting sections for detecting different patterns; and one of said plural pattern detecting sections to be operated can be selected.

The Ricoh reference discloses an image forming apparatus wherein said pattern detecting device is provided with plural pattern detecting sections for detecting different patterns; and one of said plural pattern detecting sections to be operated can be selected (reference sections 0052 - 0056 Note: JP-2000-103117 as translated by http://www.ipdl.ipd.go.jp/homepg_e.ipdl).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda to include said pattern detecting device is provided with plural pattern detecting sections for detecting different patterns; and one of said plural pattern detecting sections to be operated can be selected as taught by RICOH (JP 2000-103117). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda by the teaching of RICOH (JP 2000-103117) to detect agreement with each of specific patterns detected to aid in the

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prevention of an edge section in an image or one dot line from becoming too thick as taught by RICOH (JP 2000-103117) in reference sections 0052 - 0056 (Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

With regard to claims 8, 17 and 26, Toyoda does not specifically teach wherein said pattern detecting device and said printing device create code data including data representing whether or not the data coincide with plural patterns and density data of the target pixel; and the size of the printing dot is changed by converting the data obtained by decoding the code data to the light-emitting data.

The Ricoh reference discloses an image forming apparatus wherein said pattern detecting device and said printing device create code data including data representing whether or not the data coincide with plural patterns and density data of the target pixel (reference sections 0052 - 0056 Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl); and the size of the printing dot is changed by converting the data obtained by decoding the code data to the light-emitting data (reference sections 0048 - 0051 Note: JP-2000-103117 as translated by http://www.ipdl.jpo.go.jp/homepg_e.ipdl).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda to include said pattern detecting device and said printing device create code data including data representing whether or not the data coincide with plural patterns and density data of the target pixel; and the size of the printing dot is changed by converting the data obtained by decoding the code data to the light-emitting data as taught by RICOH (JP 2000-103117). It would have been

obvious to one of ordinary skill in the art at the time of the invention to have modified Toyoda by the teaching of RICOH (JP 2000-103117) to detect agreement with each of specific patterns detected to aid in the prevention of an edge section in an image or one dot line from becoming too thick as taught by RICOH (JP 2000-103117) in reference sections 0052 - 0056 (Note: JP-2000-103117 as translated by http://www.ipdl.ipd.go.jp/homepg_e.ipdl).

With regard to claims 9 and 27, all of the limitations are met by the rejections of claims 7 and 8.

With regard to claim 28-32, the limitations are addressed by the rejections of claims 19-27.

Response to Arguments

7. Applicant's arguments filed 12/29/04 have been fully considered but they are not persuasive.

Applicant argues that Toyoda is not directed to a device that detects whether or not a pattern is constructed with a lengthwise line of a single dot width based on a pattern of respective multi-value data of a target pixel and adjacent pixels.

Toyoda discloses to a device that detects whether or not a pattern is constructed with a lengthwise line of a single dot width based on a pattern of respective multi-value data of a target pixel and adjacent pixels in (col 4, lines 13-15; col 4, line 32 – col 7, line 33-45).

Applicant argues that Toyoda does not teach a printing device that can print size-reduced printing dots of the lengthwise line of the single dot width.

Toyoda discloses the sub-images thus read are connected to restore the original image, and the size of the restored original image is reduced to the size of a recording medium which reads on printing configured to print size-reduced printing dots of said lengthwise line of the single dot width detected by said pattern detecting device in col 7, lines 36-45.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Twyler M. Lamb whose telephone number is 571-272-7406. The examiner can normally be reached on M-Thurs 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Twyler M. Lamb
Primary Examiner
Art Unit 2622